

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of synthesizing a crystalline material, comprising the steps of:

- a) producing seeds (6) of a catalyst adapted to dissolve carbon on a substrate[[(2)]] constituted by a first material;
- b) growing carbon nanotubes[[(6)]] from the seeds[[(6)]]; and
- c) producing a layer of a second material comprising at least one monocrystalline region [[(12)]]orientated from a seed[[(6)]].

2. (Currently Amended) A method according to claim 1 in which, during step b), the seeds[[(6)]] are orientated in a magnetic field.

3. (Currently Amended) A method according to ~~one of the preceding claims~~ claim 1, in which the first material is an amorphous material.

4. (Currently Amended) A method according to ~~one of the preceding claims~~ claim 1, in which the catalyst comprises a transition metal.

5. (Currently Amended) A method according to ~~one of the preceding claims~~ claim 1, in which the second material is silicon.

6. (Currently Amended) A method according to ~~one of the preceding claims~~ claim 1, in which step c) comprises the following sub-steps:

c1), during which the second material[[(10)]] is deposited in an amorphous form on the substrate[[(2)]] and seeds[[(6)]] located at the tops of carbon nanotubes[[(8)]]; then

c2), during which the second material is crystallized in the solid phase.

7. (Currently Amended) A method according to ~~one of the preceding claims~~ claim 1, in which step a) comprises the following sub-steps:

a1), during which studs[[(4)]] of ~~second material~~ catalyst are produced on the substrate; then

a2), during which the substrate[[(2)]] and the studs[[(4)]] are annealed to form seeds [[(6)]].

8. (Currently Amended) A method according to ~~one claims 1 to 6~~ claim 1, in which step a) comprises the following sub-steps:

a'1), during which a thin film constituted by ~~second material~~ catalyst is deposited on the substrate[[(2)]]; then

a'2), during which the substrate[[(2)]] and the thin film are annealed to form seeds[[(6)]].

9. (Currently Amended) A method according to ~~one claims 1 to 6~~ claim 1, in which step a) comprises the following sub-steps:

a''1), during which metal ions are implanted into a thin layer[[(30)]];

a''2), during which the thin layer[[(30)]] into which ions have been implanted is annealed to form metallic precipitates[[(31)]] from the implanted ions;

a''3), during which selective attack of the thin layer[[(30)]] is carried out to cause metallic precipitates, which will form seeds[[(6)]], to appear on the surface.

10. (Currently Amended) A method according to ~~one of claims 7 to 9~~ claim 7 in which, during steps a2), a'2) or a''2), a magnetic field is applied to orientate the seeds[[(6)]].

11. (Currently Amended) A method according to ~~one of claims 1 to 6~~ claim 1, in which step a) comprises the following sub-steps:

a'"1), of depositing a layer of masking resin[[(40)]] on the thin layer[[(30)]], of producing motifs in the resin[[(40)]], and of etching the thin layer[[(30)]] at the motifs to form pits[[(41)]];
a'"2), of depositing the ~~second material catalyst~~;
a'"3), of dissolving resin[[(40)]]; and
a'"4), of annealing the thin layer[[(30)]] and ~~second material catalyst~~ in the pits[[(41)]] to form seeds[[(6)]].

12. (Currently Amended) A material comprising:

a substrate[[(2)]] constituted by a first material extending essentially in a plane; carbon nanotubes[[(8)]] extending longitudinally essentially perpendicular to the plane of the substrate[[(2)]] between a free end and an end which is fixed to the substrate[[(2)]]; seeds[[(6)]] of a catalyst substantially located near the free end of carbon nanotubes[[(8)]]; and
at least one domain[[(12)]] of a second crystalline material orientated from at least one seed[[(6)]].

13. (New) A method according to claim 8 in which, during step a'2), a magnetic field is applied to orientate the seeds.

14. (New) A method according to claim 9 in which, during step a'"2), a magnetic field is applied to orientate the seeds.